DOES NOT CIRCULATE

UNIVERSITY OF MICHIGAN
APR 6 1955
MEDICAL LIBRARY

Southwestern MEDICINE

OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND EL PASO COUNTY MEDICAL SOCIETY

The President's Column — The Value of Public Relation Programs.....Page 157
By Joseph Bank, M.D., Phoenix

Current Therapy — Parkinson Treatment.....Page 158
By Jack A. Bernard, M.D., El Paso

Aphorisms and Memorabilia — Miscellaneous Truths and Concepts.....Page 159
By Andrew M. Babey, M.D., Las Cruces, N.M.

Clinical Pathological Exercises.....Page 161
(An Editorial)

Monthly Clinical Pathological Conference of El Paso General Hospital.....Page 162
Frederick P. Bornstein, M.D., Editor
Presentation of Case by Manley B. Cohen, M.D.

Meratran — Use of a New Antidepressant in Internal Medicine.....Page 166
By Robert J. Antos, M.D., Good Samaritan Hospital, Phoenix

Chemical Aspects of Protein Bound Iodine Determination.....Page 168
By J. A. Hancock, Ph. D., Texas Western College, El Paso

April
1955

Proceedings of The New England Cardiovascular Society

Pericardial Constriction Versus Myocardial Fibrosis.....Page 170
By C. Sidney Burwell, M.D., and Eugene D. Robin, M.D., Boston

Mitral Stenosis and Insufficiency — Their Relative Importance.....Page 170
By Lewis Dexter, M.D., Lawson McDonald, M.D., Murray Rabinowitz, M.D., Elliot Rapaport, M.D., Florence W. Haynes, Ph. D., and Hiroshi Kuida, M.D., Boston

Clinical Features of Aortic Stenosis.....Page 171
By Avard M. Mitchell, M.D., Charles H. Sackett, M.D., Warren J. Hunzicker, M.D., and Samuel A. Levine, M.D., Boston

new reserpine therapy with control of nasal congestion

'Sandril' c 'Pyronil'

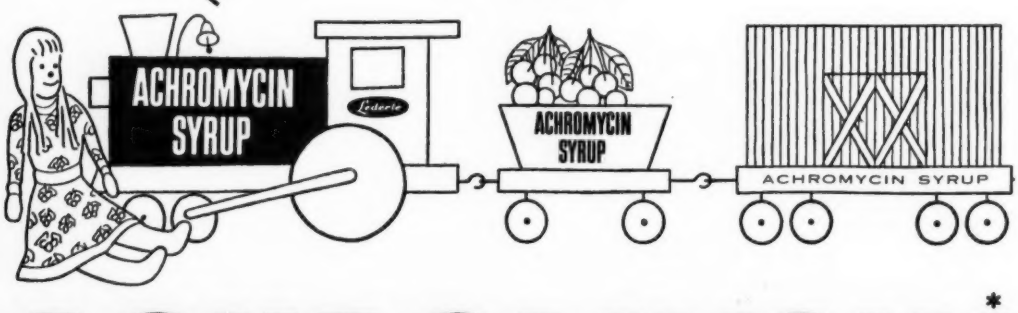
(RESERPINE, LILLY) (PYRROBUTAMINE, LILLY)

Unpleasant nasal stuffiness is relieved in seventy-five per-cent of patients who develop this symptom as a result of reserpine therapy.

Each tablet contains 0.25 mg. 'Sandril' and 7.5 mg. 'Pyronil.' Average adult dosage ranges from 1 to 4 tablets daily. Supplied in bottles of 100 and 1,000. May we send literature?

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A. Lilly

PLEASANT CHERRY FLAVOR!
125 MG. PER 5 CC. TEASPOONFUL! NO REFRIGERATION!
READY TO USE! IN 2 OZ. BOTTLES! AQUEOUS—NO OIL.
NO AFTERTASTE! MISCIBLE WITH WATER, MILK, SODA!



ACHROMYCIN* SYRUP

Tetracycline *Lederle*

ACHROMYCIN broad-spectrum • rapid diffusion • prompt control of infection • well tolerated • effective against Gram-positive and Gram-negative bacteria, rickettsiae, spirochetes, and certain viruses and protozoa.

Today's foremost antibiotic, tested and accepted by foremost medical authorities, produced and marketed by Lederle.

Other forms of ACHROMYCIN for pediatric use:

Pediatric Drops (Cherry Flavor): 100 mg. per cc. (approx. 5 mg. per drop)

Oral Suspension (Cherry Flavor): 250 mg. per teaspoonful (5 cc.)

SPERSOIDS* Dispersible Powder (Chocolate Flavor): 50 mg. per rounded teaspoonful (3 Gm.)

Lederle

LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY Pearl River, New York

*REG. U.S. PAT. OFF.

Southwestern MEDICINE

VOL. XXXVI APRIL, 1955 No. 4

THE PRESIDENT'S COLUMN

The Value of Public Relation Programs

BY JOSEPH BANK, M.D., PHOENIX

Public Relation programs have been conducted by national and regional organizations for a number of years and are no longer new. It is not surprising, therefore, to note attempts at appraisal and evaluation of such programs.

Dr. Bank

The objective of a public relation effort is to establish an atmosphere of mutual trust and understanding between physician and patient. It is not, of course, a superficial attempt to win friends and influence people. The idea is not merely to make people like us, but to do something which will help them. Liking us will be a matter of course because they have been benefitted.

Pitfalls

In the execution of such a program certain pitfalls must be avoided. The defensive attitude of the profession against governmental encroachment may be misinterpreted by the public as being in some way responsible for increasing costs of medical care. In doing so, people lose sight of the fact that the benefits of improved medical care far outweigh the increased cost. In supporting new legislation, the appearance of self-seeking must not be created. All the results of medically sponsored legislation cannot be foreseen. As a result, an adverse public reaction may set in when unexpected complications appear. During the early stages of Blue Cross and Blue Shield the hesitant steps of the profession in a new field were mistaken in some quarters as opposition to the principle of voluntary insurance. It has been pointed out that it is difficult to control medicine's relation with the public at the national and state level and that the results do not justify the expenditures.

Simplified Formula

As a result of such observations, both medical and lay writers on the subject have focused attention again to what may be considered a simplified formula, namely, the relationship of the individual physician to the individual patient. The loyalty of the patient to the devoted physician is held up as medicine's strongest weapon. The Committee on Medical Service and Public Relations of Illinois recently published a pamphlet outlining public relation programs for county medical societies which revolve on the influence and cooperation of the individual physician. It has also been pointed out that the individual doctor cannot withdraw into the peace of undisturbed, clinical medical practice. He must develop a participating interest in insurance, legislation, hospital costs, and the many complicating features of present day medical care.

Dichter Report

The Dichter Report made in California in 1950 emphasizes the human relation between physician and patient and created the expression, "A personal physician for every person." A useful and timesaving secretary may act as a barrier between physician and patient by trying to eliminate time consuming phone calls for the busy practitioner.

Public relations depends on individual relations with the public which consists of individual patients. The secret of improvement lies with each physician in his daily routine.

CURRENT THERAPY

Parkinson Treatment

By Jack A. Bernard, M.D., El Paso

The chemotherapy of parkinsonism is an interesting and controversial one, in that both physicians and patients are highly suggestible; and therefore it is extremely difficult for the investigator to evaluate any new form of therapy. However, with chemotherapy, vigorous physiotherapy, psychotherapy, strong reassurance and active physician interest, the often forgotten Parkinson patient can be helped materially.

Treatment is not easy. Like the diabetic, the patient must be followed and checked periodically, because a single medication is usually not sufficient whereas a combination of several drugs may be quite helpful, and also the drugs tend to wear off in their effects and substitutions may be necessary. There are many such problems which necessitate constant and repeated follow-ups in the Parkinson patient.

The drugs that may be useful may be grouped as follows:

1. **Antispasmodics.**
2. **Stimulants.**
3. **Muscle relaxants.**
4. **Antihistamines.**
5. **Combinations of the above.**

The antispasmodics — Atropine, Scopolamine, Stramonium and their combination, Rabellon — have been in use for a long time and have been helpful, particularly in their control of tremor, but their side effects are disturbing, causing dryness of the mouth, blurred vision, and mental fogginess. Atropine should not be used in cases of possible existing glaucoma.

Because of these side effects, newer synthetic antispasmodic preparations have been developed: Artane, Cogentin, Pagitane, Panparnit, Diparcol and Pipanol.

Artane is highly effective against rigidity. Pagitane is similar to Artane in action and may be slightly more potent. It is recommended when the effect of Artane begins to wear off. Panparnit is effective in reducing both rigidity and tremor. Cogentin is most effective when combined with Artane, Pagitane or Dexidrene. Diparcol has been effective in a small series of cases, but leukopenia and drowsiness were noted.

Muscle Relaxants

Tolserol and other muscle relaxants have been used and recommended but reports are conflicting as to their usefulness.

The antihistamines have been used with some success. Benadryl has been helpful but does not seem as effective alone as when combined with Artane or one of the other antispasmodics. Drowsiness occurs in at least 25 per cent of the cases reported. Thephorin has also been helpful and particularly in one series when used in combination with Artane. It would seem logical to use Benadryl in those patients who might need some sedation, whereas Thephorin would be more useful in those patients who are depressed.

The cerebral stimulants as Dexedrine and Benzedrine are stimulating only and have no action on rigidity.

Summary

In summary: The Parkinson patient is often neglected and forgotten but there are many preparations available which have been found by clinical experience to be most effective in combating the symptoms of Parkinsonism. Reports and opinions are quite conflicting, however, as to their indications, actual value, or their mode of action.

Actually until more is known about the fundamentals of this illness, symtomatic therapy is our purpose, and therefore, a more careful analysis of the individual patient is indicated as regards his symptoms: mood, rigidity, tremor, et al. This has been neglected, not only in actual practice, but also in the reports in the literature. There is no grouping of such patients for therapy according to their symptoms, in order to evaluate the various remedies available.

Finally, a more critical analysis of our patient as regards his symptoms, with the then appropriate selection of the indicated symptomatic drug or combination of drugs rather than the haphazard choice of each new "miracle drug" is recommended. Equally important: vigorous physiotherapy, home physiotherapy, and strong psychotherapy and reassurance are very strongly recommended.

APHORISMS and MEMORABILIA

Miscellaneous Medical Truths and Concepts

(Continued)

BY ANDREW M. BABEY, M. D., LAS CRUCES, N. M.

25. "Sheep red cell agglutinins are found in primary atypical pneumonia, infectious hepatitis, German measles, scarlet fever, polycythemia vera, tuberculosis, monocytic leukemia, Hodgkin's disease, and following the injection of horse serum. The use of the absorption methods and a careful history will in most instances eliminate these cases from consideration." Harding, Schmidt, and Hepler; *loc. cit.*; p. 450.

26. "An occasional patient is encountered in which the test (heterophile) does not become positive until three to six months after onset." Harding, Schmidt, and Hepler; *loc. cit.;* p. 450.

27. "It should be emphasized that the failure to demonstrate cold agglutinins does not necessarily exclude the diagnosis of primary atypical pneumonia. Cold agglutinins have been reported in from 20 to 90 percent of the cases, depending upon the time of sampling and the severity of the disease in the given patient." Harding, Schmidt, and Hepler; *loc. cit.;* p. 453.

28. "Antibodies to this Streptococcus (MG) usually do not begin to appear in the serum of patients suffering from primary atypical pneumonia until the second or third week after the onset of illness and usually reach maximum levels during the fourth and fifth weeks. As is the case for cold agglutinins, the antibody level is correlated with the severity of illness. The test has been reported positive in about 50 percent of persons suffering from primary atypical pneumonia." Harding, Schmidt, and Hepler; *loc. cit.;* p. 454.

29. "Both the cold hemaglutination test and the Streptococcus MG test are of value only in making a retrospective diagnosis." Harding, Schmidt, and Hepler; *loc. cit.;* p. 454.

30. "The finding of negative complement-fixation tests does not necessarily rule out a virus disease, because as Hirst points out, (1) some patients are poor reactors and their sera will always give less than a four-fold response; (2) certain persons with an initial high residual titer may fail to develop more antibody; (3) an occasional patient may be infected with a virus of the group but his serum response is so strain-specific that it fails to react to the standard type antigen." Harding, Schmidt, and Hepler; *loc. cit.;* p. 458.

31. "Men are suffering from the very ancient delusion that they are the stronger and superior sex, when as a matter of fact, only their skeletal muscles are stronger. In past ages a big biceps counted a great deal in the battle for survival, but it means little now." W. T. Sowder, Florida State Health Officer; *Public Health Reports;* September, 1954.

32. "Insidious thrombosis of the aortic bifurcation produces intermittent claudication in thigh, buttocks, or lower legs, impotence, and limb fatigue. This lesion may occur from the third to the fifth decades of life, and in the absence of extensive atherosclerosis." *The Lancet;* September 25, 1954; p. 642.

33. "God forbid that any of us should set up medicopolitics as a golden calf to worship, but if we're to retain the last fragments of our freedom to practice medicine as a noble profession we shall have to fight the cancer of increasing lay control." Tom Cobbleigh; *loc. cit.;* p. 649.

34. "Sometimes, indeed, a giant bulla may occupy a hemithorax and may be mistaken for a spontaneous pneumothorax on cursory inspection of a radiograph, although closer examination will usually reveal trabeculae, the appearance of a rim of lung at the costophrenic angle or apex, and absence of the lung mass at the hilum. It is important to distinguish the conditions, because needling a bulla may lead to a tension pneumothorax." *The Lancet;* July 10, 1954; p. 80.

35. "Recurrent spontaneous pneumothorax is commonly treated by pleurodesis, and Brock emphasized the importance of first excluding a localized bulla as the source of the trouble, for this should be treated by excision. He pointed out that such a bulla may escape radiographic detection, and thus thoracoscopy should never be omitted. Large

bullae that are compressing sound lung tissue may also be excised, with consequent improvement in pulmonary function." *loc. cit.;* p. 80.

36. "All patients who have had pulmonary, osseous or other tuberculosis should have periodic urinalyses for pyuria. Multiple guinea pig inoculation and cultures of the urine for tubercle bacilli should be carried out." John K. Lattimer and Roland J. Kohen; *The American Journal of Medicine;* October, 1954; p. 538.

37. "There is certainly no emergency about performing a nephrectomy for tuberculosis. It is desirable to postpone the operation long enough to make certain that the urine from the contralateral kidney is free of tubercle bacilli and pus cells. The operation is best preceded by four months of chemotherapy and followed by eight more months of treatment." Lattimer and Kohen; *loc. cit.;* p. 538.

38. "Prostatic and epididymal tuberculosis are now being treated with one year of combined chemotherapy. Epididymectomy is advised only for lesions which are obviously very large, caseous or necrotic or in which the ductus deferens is already occluded. The operation is followed by one year of combined chemotherapy." Lattimer and Kohen; *loc. cit.;* p. 538.

39. "Postural proteinuria is often accompanied by the passage of red and white blood-cells and of hyaline and granular casts, roughly proportional in number to the degree of proteinuria. The level of protein may be surprisingly high." *The Lancet;* October 2, 1954; p. 696.

40. "It is luck, luck in our heredity, luck in our environment, that makes the difference; and moreover at any moment fortune's erratic wheel may turn completely round and we ourselves may be hit by some totally unforeseen catastrophe.

It is luck, too, springing from some fortunate encounter, some incredible love affair, some fragment of oracular wisdom in word or writing that has come our way, that launched us on the secret road of health and on the stubborn resolution to be happy under all upshots and issues, which has been so vast a resource to us in fortifying our embattled spirit.

At any moment we are liable, the toughest and strongest among us, to be sent howling to a suicidal collapse. It is all a matter of luck; and the more culture we have the more deeply do we resolve that in our relation with all the human failures and abject and ne'er-do-wells of our world, we shall feel nothing but plain, simple, humble reverence before the mystery of misfortune." John Cowper Powys; from *"The Meaning of Culture."*

41. "Whenever a patient wears tinted glasses, one can suspect an anxiety tension state. This is not invariably so, not everyone who wears tinted glasses has psychoneurosis, but it is very commonly true that tinted glasses have this significance ... The tinted glasses have two purposes: First, they serve as a shield from the world; and, secondly, because these patients are uneasy and secrete an excess of adrenalin, their pupils are often widely dilated, so that bright light is distressing." Ovid O. Meyer; *Northwest Medicine;* October, 1954; p. 1008.

42. "During the last decade we have had to face some disconcerting revisions of our views on what is bad for children. We have learned, for instance, that while it is bad to deprive a child of regular meals it is worse to deprive him of regular affection; and that the clean inmate of a model children's home may develop less successfully than the dirty member of a far-from-model family. The principle that the family should whenever possible be kept together has now acquired the force of an axiom." *The Lancet;* September 11, 1954; p. 537.

43. "One of Hench's most revolutionary recommendations was the use of these Hormones (A. C. T. H. and Cortisone) with antibiotics in severe infections where antibiotics alone have failed. Successfully treated by combined therapy had been peritonitis, meningitis, septicaemia, bacterial endocarditis, and tuberculous meningitis and peritonitis." Quoted from Third International Congress of Internal Medicine, Stockholm; September 15-18, 1954; *British Medical Journal;* October 2, 1954; p. 806.

44. "In all emergencies in which transfusion of Rh-positive blood to a nonsensitized Rh-negative recipient is carried out as a life-saving measure, the physician should write a justification of his action on the patient's chart as a safeguard against possible medicolegal repercussions." Alexander Wiener; *J. A. M. A.;* December 4, 1954; p. 1303.

45. "Apparently, if life continues long enough, every prostate will eventually show some degree of malignant development but in a large proportion of men the disease remains localized and symptomless. This form of prostatic carcinoma Franks refers to as latent cancer, thus implying that, like certain other localized tumours, it has the capacity for more vigorous and aggressive growth than is manifest when it is found." *The Lancet;* November 20, 1954; p. 1064.

EDITORIAL

Clinical Pathological Exercises

Many years ago Richard C. Cabot in Boston founded weekly Clinicopathological exercises. These exercises were designed to bring to the physicians of Greater Boston a better understanding of clinical medicine. Dr. Cabot understood perhaps better than anyone of his time the need for correlation between the basic sciences and clinical medicine.

Basic Science Boards

From this has emerged undoubtedly to a great degree the Basic Science Boards required in many states, and courses for physicians attempting to literally fit the clinical findings of everyday practice with the actual pathology. One year ago the Editorial Board of SOUTHWESTERN MEDICINE felt that there was an actual need for some method of Post-Graduate study in the Southwest. Our geography is unique; our distances extensive. Although transportation methods are vastly improved, it is still extremely difficult to bring post-graduate teaching to these vast expanses. It has been said that the greatest difficulty one encounters in post-graduate teaching is the lack of facilities for the use of bedside methods for the post-graduate.

Case Approach

For this reason it was felt that at least one approach could be case history presentations. The staff of the El Paso General Hospital through its pathological service graciously consented to undertake this rather arduous task. It is not by any means easy to organize a monthly contribution to any periodical, especially such as this, where one has to depend on the co-operation of busy practitioners of medicine.

In Infancy

However, when we realize that our attempt at case history presentation is in its infancy — in reality in its swaddling clothes, we are beginning to see light. We have made mistakes, but who has not. We feel we have made definite progress. We are going ahead, and in the ensuing year, the Editorial Board is quite sure that our case presentations will be, in terms of the vernacular, bigger and better.

Heart-Felt Thanks

Those of us who have the task of the preparation of this periodical join with our many readers in the Southwest to send our heartiest and heart-felt thanks to the staff of the El Paso General Hospital, and to the Pathological Service for the work and kindly co-operation that has been afforded.—L. C. F.

SWM To Publish Papers From GP Closed Circuit TV Program

Because a great many of the general practitioners of the far-flung Southwest were unable to see or hear the recent and outstanding closed circuit TV program on "The Management of Streptococcal Infection and Its Complications," SOUTHWESTERN MEDICINE in its June edition will publish all six papers which composed this outstanding program.

The program was jointly sponsored by The American Academy of General Practice and Wyeth Laboratories of Philadelphia. It was the first time the Academy has used television to bring post-graduate education to its members in many sections of the nation. The telecast was received in 58 cities.

Scientific papers, on the program and to be published in the June edition of SOUTHWESTERN MEDICINE, were presented by Dr. John D. Keith, associate professor of pediatrics at the University of Toronto and physician-in-charge of the cardiac clinic and service at Toronto's Sick Children's Hospital; Dr. Burtis B. Breese, assistant professor of pediatrics at the University of Rochester; Dr. Lowell A. Rantz, associate professor of medicine at Stanford University School of Medicine; Dr. Gene H. Stollerman, director of Irvington House; Dr. Keith Hammond of Paoli, Ind., a member of the Academy; and Dr. Charles H. Rammelkamp, Jr., professor of medicine at Western Reserve University and Director of the Commission on Streptococcal Diseases, Armed Forces Epidemiology Board.

MONTHLY CLINICAL PATHOLOGICAL CONFERENCE EL PASO GENERAL HOSPITAL

February 9, 1955

By Frederick P. Bornstein, M. D., Editor — Case No. S5657
Case Presentation By Dr. Manley B. Cohen

CLINICAL HISTORY

Dr. Manley B. Cohen:

This is a 32 year old woman in good health all her life, who was in an automobile accident just prior to the time these x-rays were taken. Although she didn't get hurt very badly, some two days later she had so much in the way of aches and pains she decided to see a doctor and get some x-rays of her back, chest and shoulders in order to rule out the possibility of a fracture. On taking these pictures of the spine a large mass was seen, and so several chest films were obtained.

This woman did not show any distress whatsoever; no respiratory distress and no pain. She did mention on close questioning that occasionally over a period of three years she had a small twinge of pain in the mid-chest, sub-sternally. This lasted only momentarily and she paid no attention to it. She also stated that she had an x-ray film of the chest made two years prior to these present films and on those chest films no pathology was seen. It was recommended that a thoracotomy be done.

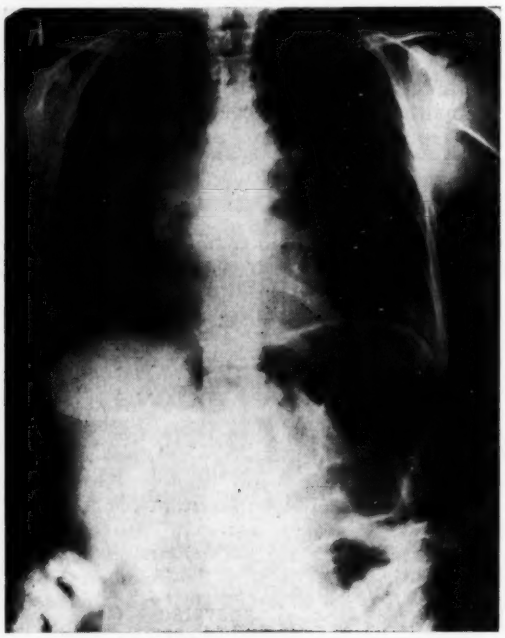


Figure 1

DISCUSSION OF X-RAYS

Dr. V. M. Ravel:

These films as you see are quite interesting. (fig. 1) The very obvious widening of the superior mediastinum is the problem that presents itself for a differential diagnosis. Now, one of the things we were interested in was whether or not this mass pulsated; and Dr. McVaugh, under the fluoroscope thought that it definitely did reveal an expansile pulsation. However, on the kymograph there certainly is a marked difference between a true pulsation which you can identify very easily and the excursion of the mass which was anteriorly and superiorly.

Next Problem

Apparently we dealt with a transmitted pulsation. So we felt that this was not a vascular lesion. The next problem arose; whether or not the lesion contained calcium. On one view there is a little increase in the density, linear in character which suggests a possible calcification. That is very important, if we can identify a definite calcification, because it aids in the differential diagnosis. The usual lesion that occurs anteriorly in the mediastinum and that is somewhat silent is a very common one, a dermoid cyst. So we tried to identify structures that would be seen in a dermoid cyst, such as a tooth.

No Calcification

No such specific calcification was observed and of course we were a little stumped there. The granulomatous lesions that one might think of could be tuberculosis, lymphoblastoma, or some of the fungus diseases which may give rise to a lymphadenopathy. But the peculiar thing was that the remainder of the chest was relatively free from signs of inflammatory processes. So, we more or less confined ourselves to the possibility of a lesion, neoplastic in origin arising from some of the structures in the anterior me-

diastinum, the lymph nodes, the thymus, but we did not exclude a dermoid.

Neurofibroma

If this lesion were posterior we would then begin to consider the possibility of a neurofibroma. This was a rather lobulated lesion and we could not put our finger on an etiologic diagnosis. We felt it was a new growth of some sort and neoplastic in origin. We felt we had ruled out a vascular lesion and that a thoracotomy or biopsy was indicated. You will notice the trachea was not displaced which I thought was significant. Even the esophagus was not displaced. So we are left again with the usual differential diagnosis of anterior mediastinal mass.

Dr. J. Rush:

In addition I would like to suggest as the differential diagnosis of a superior mediastinal tumor, a thymoma which is not too uncommon, and also a thyroid tumor. Not a thyroid that is connected with a normal thyroid but a completely aberrant thyroid that would develop in the mediastinum. I have seen such cases. Another differential diagnosis would be a pericardial cyst. This lesion did not change markedly in position, and it was much too high for the typical pericardial cyst.

Dr. J. C. Postlewaite:

I think the first approach, at least from my standpoint, to a medical chest before the surgeon completely obliterates all signs and findings, is what is found by first, physical examination and history. Dr. Cohen mentioned that the history is practically unique in the absence of positive findings and positive historical remarks. We know there is a mass here by x-ray and this is an incidental x-ray of a mass in the superior mediastinum. We know there are certain structures that may give us symptoms. Let us think of the structures in the mediastinum, the vagus nerve for one.

Vagus Symptoms

Now these people with vagus pressure have interested me several times because we have had ulcer symptoms in patients and have not found the typical aggressive, hostile, hidden, longitudinal type of frame work but instead, on further inspection there has been either a tumor of the central nervous system or a tumor with pressure on the vagus nerve, giving findings of typical gastrointestinal ulcer either of the duodenum or the gastric surface itself. There is also the cardiac slowdown that may occur by vagatonia in the area of finding of a lesion of pressure.

Invasion

Now, invasion is a different thing, and it can cut a nerve, and I suspect that you could get such things as alteration of respiration by a high lesion. Usually the lesion that gives an alteration in respiration or at least in the diaphragmatic movement would be the phrenic nerve. If the invasion progresses rapidly, obstructions of certain vascular portions of the mediastinum may cause a hemothorax or just plain fluid of low specific gravity which is due to a pulmonary vascular obstruction.

Involvements

If the lesion involves other tissue more deeply, the bronchus for example, a cough may be the outstanding finding. A cough is the thing that leads us to pulmonary problems most often. At least it brings the patient to us. Unfortunately coughs are not taken seriously. Are there any other structures? There is the inferior mediastinum that Dr. Rush referred to.

Glandular Tissues

You can recognize as Dr. Rush and the others have pointed out that the superior mediastinum has glandular tissues which may persist and it has neurogenic tissues which may persist or grow. The inferior mediastinum has its separate contents. It has many of the neurogenic tissues, fibrogenic type tissues, pericardium, etc. I must admit I have been reading on goiters much too much and thought it was an intrathoracic thyroid.

Dr. Manley B. Cohen:

In my opening remarks I left out a very important part of the patient, namely the physical findings which were completely normal. We thought of a dermoid simply because that is the most common lesion in the anterior mediastinum. We thought too of an aneurysm with dilatation particularly because of the location on the PA film. Thirdly, we thought either of thymus or thyroid and fourthly, the whole group of lymphoblastomas.

Thoracotomy

A thoracotomy was performed from the transverse and a large cystic mass was present extending from the left mediastinum across to the right mediastinum and downward as you see on the PA chest film. In addition we found that the extension into the left mediastinum was so far to the left that we could not reach it and so we extended the right transverse incision across the sternum to the left chest. It then became a matter of relative ease in separating the

mass. The cystic mass and what we found will be described by Dr. Bornstein.

Second Mass

However, not only was there a cystic mass of considerable size with a heavy wall cystic lining but there was a second mass above the large mass that is represented on the x-ray and above that a triangular flat piece with the apex extending high into the apex of the mediastinum. All free portions of the tissue were removed including the large cystic mass, the more solid mass just above it and attached to the cystic mass and the triangular tissue which was above the two masses described. The chest was then closed and the patient had an uneventful recovery.

CLINICAL DIAGNOSIS: Anterior mediastinal mass.

X-RAY DIAGNOSIS: Anterior mediastinal mass.

ANATOMICAL DIAGNOSIS: Malignant thymoma.

Figure 2

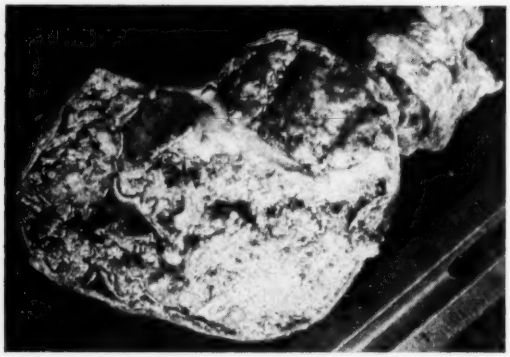


Figure 3

PATHOLOGICAL DISCUSSION

Dr. Frederick P. Bornstein:

The specimen received consisted of an oval shaped mass which measured 15 cm. in length and which was of cystic consistency. (fig. 2) Attached to the mass was a triangular soft structure previously mentioned by Dr. Cohen. On sectioning, the mass was subdivided into numerous locules which were filled with necrotic material. However in one corner a grayish white tumor mass was visible. (fig. 3) On microscopic examination it became obvious that the triangular mass attached represented thymus.

Tumor

The sections through the mass proper revealed a tumor and small islands of tumor tissue were present in the fibrous bands between connective tissue. From this I concluded that the cystic character of the mass was due to a secondary degeneration of a tumor and that the mass was originally a solid tumor. As to the histogenesis of the tumor, the microscopic examination showed that the tumor was composed of numerous small round cells resembling lymphocytes. However, between these small round cells there were small eosinophilic masses resembling Hassall bodies, (fig. 4) which permits the conclusion that we were dealing with a tumor of thymic origin.

Difficult Distinction

In the classification of thymic tumors it is extremely difficult to distinguish the lymphosarcomas from primary thymic tumors. Therefore, a reticulum stain was done, (fig. 5) which clearly showed the absence of reticulum between the tumor cells which would be most unusual in a malignant lymphoma. I therefore, considered the tumor to be a primary thymoma. The question naturally arises whether we were dealing with a benign or malignant tumor.

Uncertain Guide

A study of the literature shows that the histological characteristics of thymic tumors are a rather uncertain guide in this matter. The tumor as you have seen in the preceding pictures was a well encapsulated one which speaks for a relatively good prognosis. However, as mentioned before there was some invasion of the capsule. In addition, there was such a disorganization of the growth pattern and lack of any organoid structure that I considered the tumor to be malignant. For this reason a diagnosis of malignant thymoma was made.

Dr. Manley B. Cohen:

Thymic tumors are of considerable interest. In the first place, this was a very large tumor and it was inferiorly attached to the pericardium when first I actually

thought it invaded it, but once a plane of cleavage was begun it could be separated. Second, with a tumor of that size lying in this area one would have thought that the patient would have had distress at the time we operated.

Fortunate

I am sure it was fortunate for her that it was picked up routinely because within the very near future this should have caused her considerable distress. About 10 to 15 per cent of the myasthenia gravis cases do have thymic tumors. On the whole these are benign. Now there are benign thymic tumors other than those which are found with myasthenia gravis, and there are also malignant tumors. One can find beautiful descriptions of the benign and malignant tumors but the consensus, and I think Dr. Bornstein will agree, is that one cannot tell microscopically, as he mentioned, whether or not these tumors are malignant.

Encapsulated

Now, this tumor was well encapsulated with a very thick capsule. It showed no evidence of extension outside the tumor; and yet we feel that, despite this, there is a possibility that it may be malignant so we are now radiating her. I would like some discussion on this point.

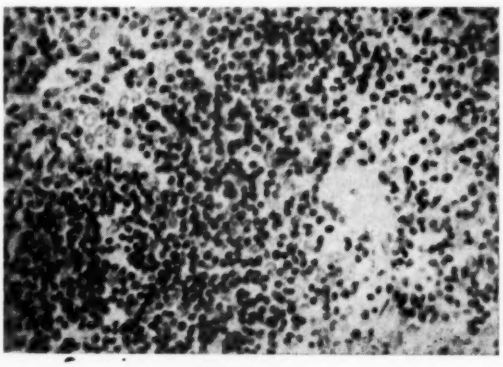


Figure 4

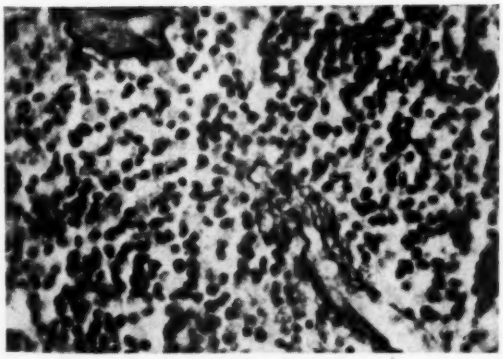


Figure 5

Dr. J. Rush:

I saw a case similar to this in 1946 on a young soldier who was operated on and a very invasive malignant thymoma was found. It was determined at the operation that it was completely inoperable, as it had invaded the superior mediastinal structures including the vena cava and had grown its way into the arch of the aorta. He was closed up with merely a biopsy taken and was given x-ray therapy. The tumor completely regressed, and he had a perfectly normal chest on leaving the hospital and subsequent follow-ups have proved him to be asymptomatic for at least five years after his radiation.

Denver Surgeon Speaks to Chaves County Society

Dr. Henry Swan of Denver was guest speaker at a special meeting of the Chaves County Medical Society. Dr. Swan is professor and head of the Department of Surgery at the Colorado University Medical Center. He appeared before the Chaves County Medical Society and Nurses Association under the auspices of the Chaves County Heart Association on their program of professional education during Heart Month.

He gave a most interesting discussion concerning recent advances in heart surgery. He stressed the fact that mortality rates in heart and blood vessel surgery have been moderate and reasonable from the ligation of first patent ductus in 1938, due primarily to thorough animal research. This same research, in great part sponsored by funds from the American Heart Association, is responsible for continuous changes and newer, safer approaches to the surgical treatment of cardiac disease and abnormalities.

He presented statistics of cases operated under his direction at Colorado General Hospital — an honest appraisal of the problems involved. He listed types of heart lesions amenable to surgical procedures, indications for this type of treatment, mortality rates for the various operations and when these patients should be referred for treatment.

He pointed out that diagnostic evaluation and surgical treatment of cardiac lesions is strictly a team proposition. The use of hypothermia was given due credit for its part in successful heart surgery and the possibility of its use in other fields was discussed.

BY E. W. LANDER, M.D., ROSWELL, N. M., REGIONAL EDITOR.

ORIGINAL ARTICLES

Meratran
Use of a New Antidepressant in Internal Medicine

By Robert J. Antos, M.D.,
Department of Medical Research, Good Samaritan Hospital, Phoenix

Meratran* is a new antidepressant medication which differs from the familiar pressor amines when studied pharmacologically in experimental animals.[1] Potential clinical advantages were first demonstrated in animals wherein it was noted to be a potent central stimulant of low toxicity which was not followed by a depression upon cessation of drug activity. There are no direct effects upon the cardiovascular system, blood pressure, pulse, or appetite. Efficient oral absorption was demostrated by increased coordinated activity of animals even after low dosage, and also by high tissue concentrations in the brain shortly after administration.[2] In the monkey, maximum physiologic effects, consisting of high amplitude paroxysmal activity in the subcortical portions of the hippocampus and in the area around the septum pellucidum, were demonstrated in electrical tracings obtained from animals with chronically implanted electrodes.[3] The septal area is the portion of the brain associated with awaking or alerting responses, and in a state of normal reactivity it is subconscious in nature.

The clinical use of Meratran was first described in connection with its neurologic and psychiatric applications.[4] Subsequently, its uses in gerontology[5] and internal medicine[6] have been described.

Emotional Depression

Meratran is of particular value to those patients suffering from emotional depression. These patients, although rational, are sometimes depressed to relatively severe levels. The term "reactive depression," or situational depression," sometimes describes the condition best. This is true since the depression is not due to endogenous psychiatric disease but rather, is the result of an unpleasant event or period of life. Mild psychogenic depressions are generally first seen in medical rather than psychiatric practice. In these cases, the dosage is usually 3 mg. to 6 mg., given orally in divided doses three times daily. It is usually best to start with 1 mg. three times daily and to double the dose if the desired response is not obtained.

Fatigue States

Meratran is a valuable drug in the emotional fatigue syndrome which is sometimes purely functional in origin. This condition sometimes results from organic disease or may be a side effect of therapy needed to control the basic disease. Meratran usually increases the work capacity to normal. Failure to do so is an indication for specific therapy (e. g., iron for secondary anemia), even though the combined administration of Meratran with definitive therapy will frequently control symptoms more promptly than the definitive therapy alone.

Selection of Patients

Emotional depression and fatigue states are very common in medical practice. The list in Table One indicates the wide variety of causes in the author's series of 641 trials over a period of 12 months, and in Table Two it will be seen that Meratran has been administered along with quite a variety of other medications. There is no contraindication to Meratran in any of these combinations. In some the Meratran has overcome drowsiness as a side effect. This is true notably in the case of the *Rauwolfia serpentina* products which continue to exert their antihypertensive effect even after the sedative effects have been overcome by Meratran.

Of special interest is the value of Meratran in depressions or fatigue states occurring in diabetic patients. The anorexigenic properties of the pressor amines are undesirable in diabetics, since failure to follow the prescribed diet accurately may lead to insulin imbalance. Freedom from effect upon the appetite makes it possible for Meratran to be used in diabetics without dietary disturbances.

*Meratran is the trade-mark of The Wm. S. Merrell Company, Cincinnati 15, Ohio for its brand of pipradrol (α-(2-piperidyl) benzhydrol hydrochloride).

**Meratran with Reserpine was kindly supplied by the Medical Research Department of The Wm. S. Merrell Company. Each tablet contains 1 mg. of Meratran with 0.25 mg. of Reserpine.

TABLE ONE

Conditions in Which Meratran is Useful as an Adjunct to Control Secondary Depression or Fatigue

Condition	Number of Cases
Abdominal distention	2
Acne vulgaris	14
Acromegaly	2
Addison's disease	1
Adenosis of breasts	5
Alcoholism (2 acute; 11 hangover)	13
Allergy	23
Amenorrhea	2
Amnesia	1
Aphasias	2
Anemia	6
Angina pectoris	3
Angioneurotic edema	3
Anorexia (anorexia nervosa, 1; anorexia simplex, 7)	8
Arrhythmias (cardiac)	4
Asthma, bronchial (Meratran alone, 2; with other drugs, 4)	6
Asthma, cardiac	3
Bronchitis, chronic	6
Bronchiectasis	2
Calculi (biliary or urinary)	3
Cholecystitis	2
Colic (infants)	3
Colon, irritable	4
Congestive heart failure	2
Constipation	10
Convalescence	40
Convulsions	3
Dermatitis	5
Dermatomyositis	2
Diabetes	5
Dysmenorrhea	150
Enuresis	8
Epistaxis	3
Fibrositis	3
Fungous infections of the lung	9
Gastritis	2
Glomerulonephritis	2
Goiter	1
Gout	2
Headache	14
Hepatic disturbances	7
Hodg'in's disease	3
Hyperemesis (gravidarum or psychogenic)	9
Hypertension *per se*	21
Hypertension (combined with other drugs)	15
Hyperthyroidism	3
Hypogonadism (female, 3: male: Klinefelter's syndrome, 1; Male climacteric, 5)	9
Hypothyroidism (with myxedema, 3; mild, 7)	10
Infarction, myocardial	5
Infarction, renal	1
Insomnia	7
Jaundice or icterus (catarrhal, 7; hemolytic, 1; obstructive, 3)	11
Labyrinthitis	3
Lactation	3
Lethargy	3
Leukemia	1
Meniere's disease	2
Menopausal disorders	9
Meno-metrorrhagia	2
Migraine (true, 2; sick headache, 15)	17
Mononucleosis, infectious	4
Motion sickness	5
Multiple sclerosis	1
Muscular dystrophy	1
Myalgia	2
Myasthenia	1
Neurodermatitis	3
Obesity	4
Ovarian dysfunction	3
Palsy (Bell's)	2
Postoperative urinary retention	2
Postoperative "gas pains'"	4
Pregnancy (2 cases postpartum depression)	6
Premenstrual tension	50
Pruritus	2
Rheumatic fever	5
Sexual frigidity and sexual impotence	14
Sterility (no direct benefit)	3
Stokes-Adams Syndrome	2
Ulcers, peptic	3
Urticaria	3
Vomiting	2

Combined Administration

In states of agitation or anxiety, Meratran alone usually helps the associated depression, but it may increase the tension, especially when given in relatively high dosage. In many of these patients, the combined administration with Reserpine has been found highly gratifying. Of these, 15 suffered from hypertension and complained of varying degrees of drowsiness on Reserpine alone. The combination of Meratran with Reserpine** controlled the blood pressure without producing the drowsiness. The remaining patients suffered from a variety of anxiety and apprehension states and they responded better to the combination than to Meratran alone.

Summary and Conclusions

Meratran and the combination of Meratran with Reserpine have been employed in a series of 641 trials. In emotional depression and fatigue states, plain Meratran is used in dosage of one or two of the 1 mg. tablets three times daily. In hypertension and anxiety states, the combination of Meratran with Reserpine is usually given in a dosage of one tablet three times daily. Clinical response with both forms of Meratran has been highly gratifying.

TABLE TWO

Medication with which Meratran can be given either for synergistic effect or to control drowsiness which may be present as a side effect

Absorbants and Antacids	Bromaleate
Acetanilid	Bromides
Acetophenetidin	Caffeine
Adrenergic drugs	Carminatives
Amebicides	Chloral hydrate
Amino Acids	Coronary vasodilators
Aminophylline	Corticotropin
Aminopyrine	Diuretics
Antabuse	Hematinics
Anthelmintics	Hormones
Anti-arrhythmics (Quinidine, Metrazol, Procaine Amide, Papaverine, Quinine, Digitalis, Digitoxin)	Insulin
	Isoniazid
	Laxatives
	Lipotropic agents
Antibacterials (Antibiotics and Sulfonamides)	Liver concentrates
	Milk modifiers
Anticholinergics	Nitranitol
Anticoagulants	Nitrogen mustard
Anticonvulsants	Opiates
Antidiarrheal agents	Probencid
Anti-emetics	Sedatives
Antihemorrhagics	Rauwolfia compounds
Antihistamines	Thyroid
Antispasmodics	Urecholine
Antitussives	Veratrum alkaloids
Appetite stimulants	Vitamins
Barbiturates	

BIBLIOGRAPHY

1. Brown, B. B. and Werner, H. W.: Pharmacologic studies on α-(2-piperidyl) benzhydrol hydrochloride, a new type of central stimulant. Fed. Proc. 12:304, March, 1953.
2. Blohm, T. R., Summers, L. L. and Greensmith, R. E.: Tissue distribution and excretion of α-(2-piperidyl) benzhydrol hydrochloride (MRD-108), Fed. Proc. 13:337, March, 1954.
3. Heath, R. G.: Discussion of paper presented by Dr. H D. Fabing (α-(2-piperidyl) benzhydrol hydrochloride, a new central stimulant in the treatment of blepharospasm, spasmodic torticollis, and narcolepsy. Preliminary report) before the American Neurological Association, Atlantic City, June 14, 1954.
4. Fabing, H. D., Hawkins, J. R. and Moulton, J. A. L.: Clinical studies on α-(2-piperidyl) benzhydrol hydrochloride, a new antidepressant drug, presented before the American Psychiatric Association, May 3, 1954, St. Louis.

Chemical Aspects of the Protein Bound Iodine Determination*

By J. A. Hancock, Ph. D.**, Texas Western College, El Paso

Essentially, the quantitative determination of microgram quantities of iodine rests upon the rate of the catalytic reduction of ceric ions to cerous ions by iodide ions. [1, 3, 4, 5]. The reactions involved are postulated to be:

$$Ce^{+4} + I^- \rightarrow Ce^{+3} + I$$
$$2I + As^{+3} \rightarrow As^{+5} + 2I^-$$

Thus, the iodide ion is regenerated by the arsenious ion and is available to reduce another ceric ion. This process will proceed until either the ceric or arsenious ion is depleted. From a kinetic standpoint this reaction should be second order; however, by making the concentration of arsenious ion large in comparison to that of the iodide ion the reaction essentially follows a first order equation.

The ceric solution has a yellow color, with a maximum abosorption at a wavelength of 420 mu, while the cerous solution is practically colorless. This allows the rate of reduction of the ceric ion and thus the concentration of the iodide ion to be followed with a spectrophotometer-or colorimeter.

Many investigators have studied the factors which influence this basic reaction, but the work done by O'Neal and Simms[3] is especially noteworthy. According to their work, the linearity of the rate of reaction depends upon four major factors

1. The concentration of the H^+ ion.
2. The concentration of the Ce^{+4} ion.
3. The ratio of the concentration of the Ce^{+4} to the As^{+3}.
4. The temperature.

All of the procedures investigated [1, 2, 3, 4], have depended upon the chloric acid digestion (oxidation) of the protein sample with the conversion of the protein-bound iodine to the iodate form which is essentially nonvolatile at the boiling point of perchloric acid dihydrate. The iodine concentration of the digestate is then determined by the rate of reduction of the ceric-arsenious ion system. This is usually accomplished by noting the optical density values of the solution at definite intervals of time, and the correlation of these values with known standards. This method of determination demands reagents that are almost completely free of iodine or other catalytic agents [2, 4]. In the ordinary clinical laboratory this freedom from iodine contamination is practically unobtainable, and even obtaining reagents of negligible iodine content is a difficult matter. Consequently, a procedure was developed in which slight iodine contamination of reagents or apparatus could be tolerated, and the accuracy of the PBI determination not impaired. The decrease in concentration of Ce^{+4} is measured as a function of time, instead of the reverse. This modification enables allowance to be made for contamination through the use of a blank, and also compensates for slight temperature variations.

Serum Samples

Serum samples are prepared essentially according to the method outlined by Leffler[3] or O'Neal and Simms[4] up to the point of following the rate of the decolorization of the ceric ion. In general the procedure is as follows. A series of samples is prepared containing respectively, 0.0, 2.5, 5.0, 7.5, 10, 15 and 20 ug% of iodine. These samples are digested just as are the P. B. I. serum samples.

TABLE I

Author	Year Reported	Patient's Age	Site		Size CM	Microscopic Confirmation
Lebert	1857	53	Unknown	Unknown	3 x 4	Yes
Schoinski	1880	28	Cervix	Ant. Lip	Small	Yes
Mastin	1893	32	Fundus	Sub-mucosal	Cherry	Yes
Meyer	1895	42	Fundus	Sub-serosal	Unknown	Yes
Merkel	1901	?	Fundus	Sub-serosal	10 (?)	Yes
Ellis	1906	60	Fundus	Intramural	8 x 5 x 6	Yes
Kauffmann	1907	?	Fundus	Sub-mucosal	4	Yes
Schleussner	1921	60	Fundus	Intramural	14	Yes
Pulsch	1922	?	Unknown	Unknown	Man's head	Yes
Thaler (I)	1923	65	Corpus	Intramural	Man's head	Yes
Askanazy	1925	65	Fundus	Tubal Cornu	18.5	Yes
Dworzak	1926	75	Corpus	Sub-mucosal	Unknown	Yes
Thaler (II)	1928	?	Corpus	Intramural	Cherry	Yes
Glas	1930	60	Corpus	Intramural	Fist	Yes
Keller	1933	63	Ant. (R)	Intramural	Large	Yes
Muschik	1934	56	Ismuth	Intramural	13 x 14 x 11	Yes
Burger	1938	67	Ant. (R)	Intramural	Hen egg	Yes
Nordin	1938	59	Corpus	Intramural	Wt. 142 gm.	Yes
Hall	1940	63	Fundus	Intramural	Wt. 142 gm.	Yes
Ritter & Stringer	1941	57	Corpus	Unknown	7	Yes
Reich	1946	39	Fundus	Intramural	Lemon	Yes
Ikomonou	1947	61	Fundus	Intramural	Fist	Yes

After digestion these standards are treated with arsenious acid solution and are allowed to come to some fixed temperature, usually around 25 to 30° C. A measured amount of the ceric ammonium sulfate reagent is added to the blank (0.0 ug iodine) and the solution is immediately transferred to a cuvette and placed in a Coleman spectrophotometer so zeroed that the initial O.D. reading is approximately 0.60. The time in seconds required for the O. D. reading to change from 0.60 to 0.50 is measured with a stop watch. The reciprocal of the value so obtained in seconds is then arbitrarily multiplied by some factor to get a number greater than 1. This number is designated as the blank value and is subtracted from the reciprocal values obtained in the same manner for the known standards. These differences plotted against ug's of iodine will fall in a straight line, and duplicate determinations generally agree to within ±5%. It can be shown mathematically that up to a 20% change in blank value will not affect the standard or P. B. I. value by more than 5%.

Complete Report

A complete report on the procedure and methods involved will be forthcoming in a subsequent publication.

The administration of various drugs to patients prior to obtaining a blood sample can nullify the P. B. I. determination. Among the negative catalysts, those which cause low values of the P. B. I., are the mercurial diuretics and sulfur drugs.[1] There are other negative catalysts, but they are not likely to be encountered in practice. The only important positive catalysts are those which either introduce iodine directly into the patient's system or those which stimulate the thyroid gland to hyperactivity, such as ACTH, cortisone, thyroid extracts, etc. An incomplete investigation on the delayed influence of iodine compounds administered for gall bladder X-ray examination indicates that more than six weeks elapsed time is necessary before the P. B. I. will return to a normal value.

A summary of the major factors involved in the P. B. I. determination has been presented along with the preliminary report of a method that allows some catalytic contamination without invalidating the accuracy of the determination.

REFERENCES

1. Klugerman, M. R. Am. J. Clin. Path., *24:* 58 (1954).
2. Leffler, H. H. Am. J. Clin. Path., *24:* 51 (1954).
3. O'Neal, L. W. and Simms, E. S. Am. J. Clin., Path, *23:* 493 (1953).
4. Sandell, E. B. and Kolthoff, I. M. J. Am. Chem. Soc. 56: 1426 (1934).
5. Zak, B., Willard, H. H., Myers, G. B., and Boyle, A. J. Anal. Chem. *24:* 1345 (1952).

* Presented before the Texas Society of Medical Technologists, April 24, 1954, El Paso, Texas.

** Professor of Chemistry, Texas Western College and Chemical Consultant, Providence Memorial Hospital, El Paso, Texas.

Tumor of Spermatic Cord

Gross specimen showing Tumor (Sarcoma) of right spermatic cord.

This picture was inadvertently omitted from an original article entitled "TUMORS OF THE SPERMATIC CORD" written by Robert F. Thompson, M.D., F.A.C.S., of El Paso, and published in the March issue of SOUTHWESTERN MEDICINE.

SOUTHWESTERN MEDICINE, official journal of the Southwestern Medical Association and the El Paso County Medical Society, announces removal of its offices to Suite 700, Electric Building, El Paso, Texas, effective April 1. Phone numbers will remain unchanged. They are 3-4161 and 3-3449.

PROCEEDINGS OF THE NEW ENGLAND CARDIOVASCULAR SOCIETY

Pericardial Constriction Versus Myocardial Fibrosis

By C. Sidney Burwell, M.D., and Eugene D. Robin, M.D., the Department of Medicine, Harvard Medical School and the Medical Service of the Peter Bent Brigham Hospital, Boston

It is the purpose of this paper to stress the non-specific nature of the clinical picture and physiological characteristics of constrictive pericarditis, and to present an entity, myocardial fibrosis, which may be indistinguishable from constrictive pericarditis.

Findings by history and physical examination which are thought of as relatively specific for constrictive disease are frequently absent in it and may be present in other diseases. Thus the presence of a known precursor of constrictive pericarditis; a small or normal sized heart in the presence of marked cardiac failure; marked pulsus paradoxus; a prominent and specific diastolic gallop (the so-called pericardial click); and significant degrees of pericardial calcification are not reliable diagnostic criteria for constrictive pericarditis.

Findings

Findings by right sided cardiac catheterization which have been emphasized as characteristic of constrictive disease include limitation of cardiac output and stroke volume, increased pulmonary "capillary" pressure, a plateau of pressures from the peripheral veins to the pulmonary "capillaries", a low right ventricular pulse pressure, a right ventricular "diastolic dip" and right auricular "M". However, these findings may be absent in constrictive disease and may be present in other kinds of heart disease.

Myocardial fibrosis is defined as a replacement of myocardium by fibrous tissue to such an extent that there is interference with the normal action of the heart. The causes of myocardial fibrosis are diverse. The clinical picture may mimic that of constrictive pericarditis. The findings at right sided catheterization may include a low cardiac output and stroke volume, a pressure plateau from peripheral veins to pulmonary "capillaries", a low right ventricular pulse pressure, a right ventricular "diastolic dip" and right auricular "M". Thus the catheterization picture may be identical with that found in constrictive pericarditis.

Myocardial fibrosis may be associated with constrictive pericarditis. Almost all patients with constrictive pericarditis have some degree of myocardial fibrosis. This in large measure explains the fact that complete return to normal circulatory dynamics postoperatively is rare.

Conclusions

The following conclusions may be stated:

1. There are no pathognomonic findings by history, physical examination, or cardiac catheterization in constrictive pericarditis.
2. Myocardial fibrosis is a frequent accompaniment of constrictive pericarditis in patients.
3. Pure myocardial fibrosis with a normal pericardium may be indistinguishable from constrictive pericarditis by any means short of exploratory thoracotomy.
4. Exploratory thoracotomy should be employed to resolve this difficult diagnostic problem.

Mitral Stenosis and Insufficiency - Their Relative Importance In The Same Patient

By Lewis Dexter, M.D., Lawson McDonald, M.D., Murray Rabinowitz, M. D., Elliot Rapaport, M. D., Florence W. Haynes, Ph.D., and Hiroshi Kuida, M.D., the Medical Clinic, Peter Bent Brigham Hospital, and the Department of Medicine, Harvard Medical School, Boston

Cardiac surgery has necessitated precision in the diagnosis of mitral stenosis and insufficiency heretofore of only academic importance. The problem is not so much the presence of these lesions but the determination of which one is responsible for the patient's disability. Many ingenious methods have been devised for the recognition of mitral regurgitation such as pulmonary "capillary" pulse tracings by cardiac catheterization; esophageal pulse tracing; and fluoroscopic, roentgenkymographic and elec-

PROCEEDINGS OF THE NEW ENGLAND CARDIOVASCULAR SOCIETY

trokymographic demonstration of systolic pulsation of the left auricle. None of these methods give quantitative information regarding the severity of the regurgitation.

The differentiation of predominant stenosis from predominant regurgitation has been studied in patients with varying degrees of disability. At operation, the surgeon (D. E. Harken) has drawn a picture of the size of the stenotic orifice and described the presence or absence of a regurgitant jet during systole. *Severe stenosis and severe regurgitation cannot co-exist.* With stenotic valves of 1.8 cm.^{2} or more, the patients' symptoms and other manifestations can be justifiably assumed to stem from mitral regurgitation. With valves of 1.2 cm.^{2} or less, the symptoms derive from stenosis. Four stages or syndromes of mitral stenosis can be clearly defined and three of mitral regurgitation. In brief, symptomatic mitral regurgitation imposes a burden on the left and right ventricles, mitral stenosis on the right ventricle alone. The clinical manifestations of the two lesions in their various stages are thus dissimilar and differentiation of the predominant lesion will be described. Even when moderate degrees of both regurgitation and stenosis co-exist, the clinical pattern which evolves is that of stenosis or of regurgitation. If aortic valve disease, hypertension, or other lesions producing left ventricular strain are present, quantitative estimate of the severity of co-existing mitral regurgitation is difficult if not impossible by this approach.

Clinical Features of Aortic Stenosis

By Avard M. Mitchell, M.D., Charles H. Sackett, M.D., Warren J. Hunzicker, M.D., and Samuel A. Levine, M.D., Peter Bent Brigham Hospital, Boston

533 cases of aortic stenosis with or without other valvular lesions were reviewed. These included autopsy, X-ray and clinical diagnoses.

Males predominated 2:1 in the pure aortic group while females predominated 3:1 in the trivalvular stenosis. Only 15 per cent of those with pure aortic stenosis gave a past history of rheumatic fever but the course of their disease was no different from those without this past history.

Pure aortic stenotics lived the longest with the average age at death of 65 years as compared to the trivalvular stenotics who died at average of 36 years. Patients died 23 months after the onset of failure with pure aortic stenosis but lived for 56 months with aortic and mitral stenosis, and 80 months with trivalvular stenosis.

Fibrillation

Auricular fibrillation in the absence of mitral stenosis and hypertension was usually a grave prognostic sign. Angina occurred in about one third of the series with the incidence highest in pure aortic stenosis. Average duration of life after the onset of angina was 4 years. It was noted from the pathological material that angina symptomatology could be present without any significant coronary sclerosis or without marked aortic stenosis.

Syncope occurred in 13 per cent. Three-fourths of them had only aortic valvular lesions and it was noted that syncope did not predispose to sudden death.

In pure aortic stenosis, left ventricular hypertrophy by the electrocardiogram correlated quite closely with the severity of the stenosis. This did not hold for multivalvular lesions. Auricular fibrillation was rare in aortic stenosis without mitral stenosis but occurred in 55 per cent of those with an additional mitral stenosis.

Sudden death was noted fairly frequently, occurring in about one-fourth of the series. It occurred more often in the multivalvular group.

No Aid

Blood pressure was of no aid in diagnosis and the average level was within normal limits. The aortic second sound was frequently decreased and seemed to correlate fairly well with the degree of stenosis. Thrills were of no special value in diagnosis and merely reflected the loudness of the murmur. The systolic murmur was louder with an additional aortic insufficiency, varied little with the degree of stenosis, and could be louder at the apex than at the base.

The diagnosis of aortic stenosis can be made with a fairly high degree of accuracy when only the aortic valve is involved, but is somewhat more difficult in multivalvular cases. The estimation of the degree of constriction of the aortic valve presents even greater difficulties.

SUPERIOR EFFICACY...
CLINICALLY PROVED

Longer lasting,
more effective relief
In low back pain

Mephate has been shown more effective and longer lasting than mephenesin alone[1]... interrupting the interaction of pain and spasticity to achieve satisfactory relief in 86.8 per cent of cases tested.[2]

MEPHATE®
CAPSULES

Mephate relaxes muscle spasm without impairing strength, diminishes tension and anxiety without clouding consciousness. Each capsule contains mephenesin 0.25 Gm. and glutamic acid hydrochloride 0.30 Gm.

1. Sander, T. J. Jr.: at Mtg. Med. Assoc. of Alabama, Mobile, 1954.
2. Jessup, R., Murray, R. J. and Rossi, A.: Amer. Pract. & Dig. of Treatment, 5:792, 1954.

A. H. ROBINS CO., INC. • RICHMOND 20, VIRGINIA
Ethical Pharmaceuticals of Merit since 1878

In very special cases
A very superior Brandy

SPECIFY ★ ★ ★
HENNESSY
THE WORLD'S PREFERRED COGNAC BRANDY
84 PROOF Schieffelin & Company, New York, N.Y.

Cancer Information

Films, publications and other data on techniques for detecting and treating cancer, are available free to physicians. Apply to your state Division of the

American Cancer Society

For Sale

Beck-Lee Electrocardiograph

A true quartz string type galvanometer complete with lead wires and electrodes. Machine equipped for precordial V-Lead determinations. Excellent condition.

P. O. Box 3548, El Paso, Texas